REMARKS

Claims 1-20 are pending in the application. Claims 17 and 18 are withdrawn from consideration. Claims 1-16 are rejected. Claim 7, 8, 14 and 15 are objected to.

Claim 1 and 2 have been amended to recite that the method is for assessment of the possibility of cystic lung fibrosis in humans, as supported at least by page 7, first full paragraph. Claims 1 and 2 have also been amended to recite that the levels of CAP 18 correlate with the possibility of cystic lung fibrosis as supported at least at by Example 1. Claims 1 and 2 have further been amended to recite that the CAP 18 specifically reacts with antibody that specifically reacts with a protein having an amino acid sequence of SEQ ID NO: 1, 2, 3, or 4 , as supported at least by the description from page 7, third full paragraph to the paragraph bridging pages 8 and 9.

New claims 20 and 21 are similarly supported.

Claims 7, 8, and 14 have been amended to indicate that antecedent basis exists for the sample.

A. Claim Objections

Claims 7-8 and 14-15 are objected to because of the following informalities:

a. Claims 8 and 15 recite "a step of bringing into mutual contact the following three components; i.e., a solid phase..."), which is objected to because the term "i.e.," appears to be unnecessary in the claim. The Examiner would suggest as an alternative the following: "...the following three components: a solid phase...".

The notation "i.e.," has been removed from the claims.

b. Claims 7-8 and 14-15 refer to "a sample", which appears to refer back to "the biological sample" recited in claims 1 and 2, respectively. The Examiner would suggest that the dependent claims refer to "the sample" or "said sample" in order to make clear that the same sample previously mentioned is being used.

The claims have been amended accordingly.

c. Claims 8 and 15 are objected to because they refer to a "first antibody immobilized onto a solid phase - CAP 18 - second antibody". It is not clear why the text appears in quotation marks in the claims. Correction and/or clarification are requested.

The claims have been amended to delete the quotation marks.

d. Similarly, claims 7 and 14 refer to "an antibody capable of binding to a peptide having an amino acid sequence of SEQ ID NO: 1," which appears in quotation marks in the claims.

The claims have been amended to delete the quotation marks.

B. Claims Rejections - 35 U.S.C. § 112

1. Claims 1-16 are rejected under 35 U.S.C. § 112, first paragraph, as lacking written description in the specification.

In particular, the Examiner asserts that all proteins encompassed by the definition of "CAP 18" are not sufficiently described nor are the antibodies to those proteins. Further, the

Examiner asserts that if the antibodies are not sufficiently described, the method of measuring CAP 18 is not sufficiently described, since the antibodies are used for the measurement.

This rejection has been overcome by amending claims 1 and 2 to recite that the CAP 18 measured is that which reacts with an antibody that reacts with SEQ ID NO: 1, 2, 3, or 4. In addition, new claims 19 and 20 correspond to claims 1 and 2, but recite that the CAP 18 measured has SEQ ID NO:4.

Accordingly, the Examiner is requested, respectfully, to reconsider and remove this rejection.

2. Claims 1-16 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement.

The Examiner raises three issues.

First, the Examiner asserts that the method is not specific for diagnosing cystic fibrosis based on elevated levels of CAP 18 as compared to healthy controls, because other conditions also exhibit elevated CAP 18.

Second, the Examiner asserts that in describing only measurement of the native human CAP 18 protein, the specification does not enable one skilled in the art to detect the genus of "proteins having slight structural differences from native (non-mutated) CAP 18 but exhibiting no significant differences in terms of intravital function, behavior, etc.".

Finally, the Examiner asserts that the claims should be limited to biological samples from humans, since the guidance presented in the specification relates only to the measurement of

human CAP 18; in particular, the data presented only relate to the investigation of CAP 18 levels in humans with cystic fibrosis.

With respect to the method not being specific for cystic fibrosis, the independent claims have been amended to recite that the method is for the assessment of the possibility of cystic lung fibrosis.

With respect to the second issue, claims 1 and 2 have been amended to recite that the CAP 18 measured is that which reacts with an antibody that reacts with a protein having SEQ ID NO: 1, 2, 3, or 4.

Finally, the claims have been amended to rectie that the method is for assessment of cystic lung fibrosis in humans.

In view of the above remarks and amendments to the claims, the Examiner is requested, respectfully, to reconsider and remove this rejection.

3. Claims 1-16 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

The Examiner states that independent claims 1 and 2 recite measuring the level of "CAP 18", which is indefinite because the specification defines "CAP 18" so as to encompass "proteins having slight structural differences from native (non-mutated) CAP 18 but exhibiting no significant differences in terms of intravital function, behavior, etc." (p. 7, the last full paragraph).

This rejection has been overcome by the CAP 18 amending the claims to identify CAP 18 as that which reacts with an antibody that reacts with SEQ ID NO: 1, 2, 3, or 4.

Accordingly, removal of the rejection is requested, respectfully.

C. Claim Rejections - 35 U.S.C. § 102

Claims 1-7 and 10-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Bals et al. ("Salt-Independent Abnormality of Antimicrobial Activity in Cystic Fibrosis Airway Surface Fluid" *Am. J. Respir. Cell Mol. Biol.* 25 (2001), p. 21-25) and in light of the evidence of iHOP (Information Hyperlinked over Proteins — data for CAMP, cathelicidin antimicrobial peptide, p. 1. downloaded from http://www.ihop-net.org/UniPub/iHOP/gs/86912.html on 01/04/2007) and Larrick et al. ("Human CAP18: a Novel Antimicrobial Lipopolysaccharide-Binding Protein" *Infection duct Immunity* 63 91995), 1291-1297).

According to the Examiner, Bals et al. teaches measuring the level of CAP 18 ("LL-37/hCAP18) in a biological sample and correlating it to cystic fibrosis. iHOP is cited as evidence that LL-37, hCAP18 and CAP 18 are the same. Larrick et al. is cited as evidence that the CAP 18 of Bal et al. has the amino acid sequence of SEQ ID NO: 1.

For the following reasons, this rejection is traversed.

Bals et al. indicates that Bals et al. measured the levels of LL37h/CAP 18 in the bronchoalveolar fluid of patients with cystic fibrosis, but found that the levels of LL37h/CAP 18 were not significantly different between cystic fibrosis (CF) and controls. Accordingly, based on Bals et al., the skilled person would understand that CAP 18 cannot be used as an index for

assessment of possibility of CF. Therefore, Bals et al., teaches away from the invention in which the assessment of possibility of CF is carried out by measuring the level of CAP 18. See page 23, right column, lines 5-7 and page 24, left column, lines 2-5.

In view of the above remarks, the Examiner is requested to reconsider and remove this rejection.

D. Claim Rejections - 35 U.S.C. § 103

Claims 8 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bals et al. in light of iHOP and Larrick, and in view of Weinberg et al. (US 6,187,536 B 1).

Bals et al., iHOP and Larrick are applied as discussed above. The Examiner admits that Bals et al. fails to specifically teach measuring CAP 18 using a sandwich-type, two-antibody immunoassay as recited. In order to compensate for this deficiency, the Examiner cites Weinberg et al. According to the Examiner, Weinberg et al. teaches sandwich immunoassays.

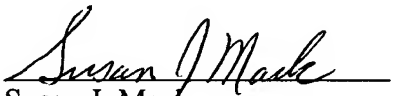
This rejection is traversed for the same reason that the rejection under 35 U.S.C. § 102 is traversed. That is, Bals et al. teaches away from the present invention.

Accordingly, the Examiner is requested, respectfully, to reconsider and remove this rejection.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Susan J. Mack
Registration No. 30,951

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE
65565
CUSTOMER NUMBER

Date: April 11, 2007